Alberta
MUNICIPAL AFFAIRS

Safety Services

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June 2000

STATISTICS

RE: ELECTRICAL INCIDENTS IN ALBERTA

1999 04 01 to 2000 03 31

Regulations under the Safety Codes Act require all electrical accidents and power line contacts be reported to the Technical Administrator. Alberta Municipal Affairs has compiled a summary report of those incidents reported between April 1, 1999 and March 31, 2000. Organizations in the electrical industry use this information for promoting public awareness of electrical safety risks to reduce electrical incidents. The report presents the information in a series of tables, text, and charts:

(1) **Injury Incidents** – Pages 2, 3 and 4 summarize fatal and non-fatal injury incidents reported in the period indicated. The table on page 2 outlines the persons, voltages, and equipment involved in the incidents. A brief description of injury incidents, in chronological order, is provided on pages 3 and 4.

(2) **Power Line Contacts** – Pages 5, 6 and 7 summarize the power line contacts reported. The table on page 5 shows different types of power line contacts and the number of fatal and non-fatal injuries incurred for each type of contact. A table and two charts, on pages 6 and 7, compares historical information regarding power line contacts with current statistics.

Since not all incident occurrences are reported, this report is not an accurate accounting of all the incidents that occurred in Alberta. It does serve as an approximation of the total number of incidents that may have occurred, and provides a sample of the types of accidents that occurred.

M.G. Gardner
Utility Coordinator

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INJURY INCIDENTS REPORTED
1999 04 01 to 2000 03 31

FATAL (F)
NON-FATAL (N)

1. PERSONS INVOLVED

A. Performing electrical work	F	N
1. Qualified electrical workers		7
2. Qualified power electricians/lineman		3
3. Non-qualified person		3

B. Not performing electrical work	F	N
1.Male	1	9
2. Female		
3. Child		1

2. VOLTAGES INVOLVED

A. Systems or equipment (not power line contacts)	F	N
1. 750 volts or less		9
2. Over 750 volts		4

B. Contact with power lines (not included in A)	F	N
1. 750 volts or less		1
2. Over 750 volts	1	9

3. SYSTEMS OR EQUIPMENT INVOLVED

A. Interior wiring system	F	N
1. Service/distribution equipment		4
2. Motor control equipment		5
3. Switches, fixtures, etc.		
4. Test equipment		2
5. General wiring/conductors		
6. Other equipment		

B. Line construction or maintenance	F	N
1. Overhead systems (poles, lines, etc.)		1
2. Substations and transformers		1
3. Underground systems		
4. Other		

C. Utilization equipment	F	N
1. Household appliances		
2. Commercial/industrial equipment		1
3. Portable power tools		
4. Extension cords		1
5. Welding machines/motors		1
6. Mobile homes and trailers		
7. Signs		
8. Other		

D. Non-electrical equipment	F	N
1. Cranes/booms/pickers		3
2. Ladders/scaffolds		
3. Drilling rig equipment		
4. Farm equipment		
5. Moving buildings		
6. Objects (pipe, antennae, etc.)	1	4
7. Excavating equipment		
8. Vehicles (high loads, truck boxes, etc.)		
9. Other		

SUMMARY OF INJURY INCIDENTS

Fatal Injuries

July/99 1. A worker erecting a tent was electrocuted when a tent pole contacted a 14 400 volt overhead power line.

Non-Fatal Injuries

April/99 1. A worker received burns to his hands and feet when a crane contacted a 25 000 volt overhead power line. The worker was on the ground guiding the load being lifted.

May/99 2. A lineman received a shock to his leg while inspecting the top of a 25 000 volt regulator.

3. A journeyman electrician received first degree burns to his wrist when the cover for a 480 volt main disconnect contacted the live terminals on the line side of a circuit breaker.

July/99 4. A worker received burns to his hands and feet when a tent pole contacted a 14 400 volt overhead power line.

5. A worker received a shock when testing the insulation on a conductor with 20 000 volts dc.

6. Three farm workers received a shock when a length of rebar used to break up lumps in a cement bin hopper contacted a 25 000 volt overhead power line.

Aug./99 7. A youth received burns to his hand and foot when he stepped off a crane, which had contacted a 14 400 volt overhead power line.

8. Three electricians received burn injuries when an arcing failure developed in a 5 000 volt motor control center. The electricians were inserting a 4160 volt starter at the time of the arc.

9. An oil rig worker received a shock after switching a main breaker. The breaker handle had been broken.

Sept./99 10. A refrigeration technician, taking voltage measurements, received third degree burns to his hand when a control panel exploded.

11. An employee received a shock when he touched the frame of a welding machine.

Oct./99

12. A worker received electrical burns to his hands and feet when handling a load being lifted by a track hoe, which contacted a 14 400 overhead power line.

13. A worker received a shock after picking up an extension cord.

Nov./99

14. An operator received a shock as he contacted a push button on a wet motor starter.

Jan./00

15. A journeyman electrician received flash burns to his eyes and burns to his face when adjusting a breaker support bracket in a 120/208 volt service panel.

16. A lineman received a shock after contacting two separate 240 volt open secondaries on a power pole.

Feb./00

17. An electrician received a shock while trying to replace a cover on a 480 volt motorized valve.

Mar./00

18. An electrician received a shock while using a "cheater cord" to test starter trips.

19. A power systems electrician received first and second degree burns to his hands and face when attempting to drill a main distribution bus.

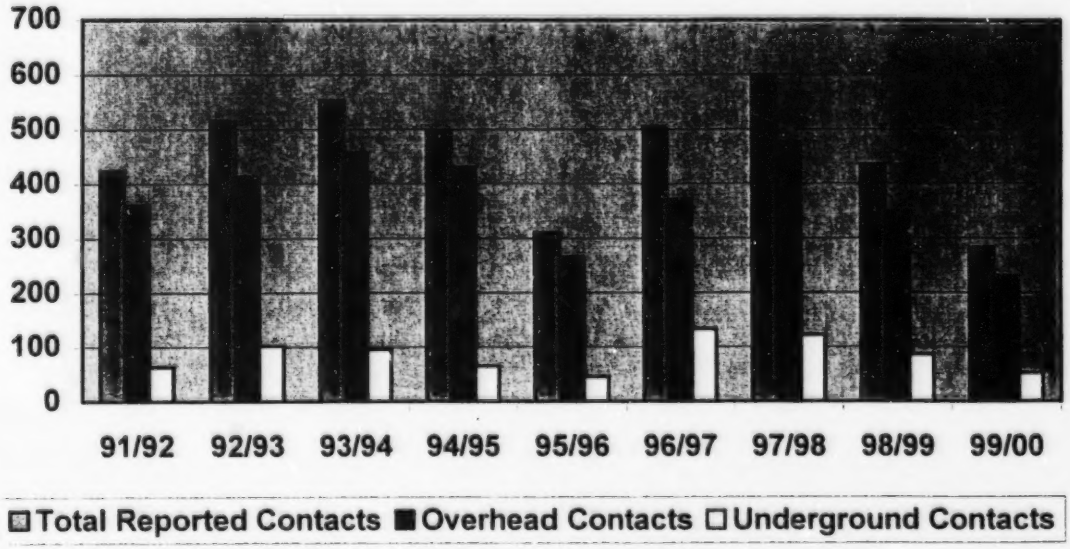
REPORTED ELECTRICAL POWER LINE CONTACTS
1999 04 01 to 2000 03 31

TYPE OF CONTACT OR DAMAGE	# OF LINE CONTACTS	NON-FATAL INJURIES	FATAL INJURIES
Overhead Utility Systems			
Equipment (booms, hoists, cranes, etc.) mounted on a truck or track	33	3	
Brushing or trimming trees a) arborists b) others	 3 32		
Vehicles out of control	40		
Trucks with raised boxes and vehicles transporting high loads	58		
Excavating or earth moving vehicles	9		
Farm implements	31		
Relocating structures (grain bins)	1		
Drilling and seismic equipment	5		
Aircraft, parachutes, kites, etc.	6		
Other inadvertent contacts by individuals	12	7	1
Total	**230**	**10**	**1**
Underground Utility Systems			
Excavating equipment	41		
Vehicles hitting transformers, pedestals, etc.	6		
Others	5		
Total	**52**		

POWER LINES CONTACTS HISTORICAL SUMMARY

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00
Overhead (O/H) contacts	361	414	457	430	265	371	477	349	230
Underground (U/G) contacts	63	102	95	65	45	133	122	86	52
Total Reported Contacts	**424**	**516**	**552**	**495**	**310**	**504**	**599**	**435**	**282**
Fatalities (O/H contacts)	0	4	3	0	0	1	7	1	1
Fatalities (U/G contacts)	0	0	0	0	0	0	0	0	0
Total Reported Fatalities	**0**	**4**	**3**	**0**	**0**	**1**	**7**	**1**	**1**
Injuries (O/H contacts)	16	11	15	7	2	6	14	15	10
Injuries (U/G contacts)	0	3	0	0	0	0	2	3	0
Total Reported Non-Fatal Injuries	**16**	**14**	**15**	**7**	**2**	**6**	**16**	**18**	**10**

Power Line Contacts Historical Summary
April1 to March 31 of The Following Year



Power Line Contacts Injuries History
April 1 to March 31 of The Following Year